



SEQUENCE LISTING

<10> AGUERA et al.

<120> Use of ULIP proteins in the diagnosis and therapy of
cancers and paraneoplastic neurological syndromes

<130> P06473US0/BAS

<140> US 09/367,496

<141> 1999-11-24

<150> FR 97 01 961

<151> 1997-02-19

<160> 10

<170> PatentIn Ver. 2.1

<210> 1

<211> 1817

<212> DNA

<213> Mus musculus

<400> 1

```
cttcctcccg ccccccgag agatgtctta tcaggggaag aaaaatattc caccatcac 60
gagcgatcgt cttctgatca aaggtggcaa gattgtgaat gatgaccagt ctttctatgc 120
agacatatac atggaagatg ggttgatcaa gcaaatagga gaaaacctga ttgtaccagg 180
aggggtgaag accatcgaag cccactccag aatggtgatt cccggaggaa ttgacgtgca 240
tactcgcttc cagatgcctg accagggaat gacatccgct gatgacttct tccagggaac 300
caaggcggcc ctggccgggg gaaccacat gatcattgac catgttggtc ctgagcccg 360
gacgagccta ttggctgcct ttgatcagtg gagggagtg gctgacagca agtcctgctg 420
tgactattcg ctgcacgtgg acatcactga gtggcacaag ggcatccagg aggagatgga 480
agctctggtg aaggaccacg gggtaaactc cttcctcgctg tacatggctt tcaaagatcg 540
attccagctg acggattccc agatctatga agtgctgagc gtgatccggg atatcgggtg 600
catagctcaa gtccacgcag agaatggtga catcattgct gaggcacagc agaggatcct 660
ggatctgggc atcacgggcc ccgagggaca cgtgttgagc cggccagagg aggtcgaggc 720
tgaagctgtg aaccggtcca tcaactattg caaccagacc aactgccttc tgtatgtcac 780
caaagtgatg cccaagagtg cggctgaagt catcgctcag gcacggaaga agggaactgt 840
ggtgtatggt gagcccatca cggccagcct ggggactgat ggctctcatt actggagcaa 900
gaactgggcc aaggctgcgg cctttgtcac ctccccaccc ttgagccccc acccaaccac 960
tccagacttt ctcaactcgt tgctgtcctg tggagacctc caagtactg gcagtgccca 1020
ctgcaccttc aacactgccc agaaggctgt ggggaaggac aacttcacct tgattcccga 1080
gggcaccaac ggcactgagg agcggatgtc tgtcatTTgg gataaagctg tggTcaTgg 1140
gaagatggat gagaatcagt ttgtggctgt gaccagcacc aacgcagcca aagtcttcaa 1200
cctttacccc cggaaaggTc gcatctcggt gggatctgat gctgacttgg tcatctggga 1260
ccctgacagt gtgaagacca tctctgccaa gacacacaac agtgctcttg agtacaacat 1320
cttTgaaggc atggagtgtc gcggctcccc actggTggTc atcagccagg gcaagattgt 1380
cctggaggac ggcacacttc atgtcactga aggtcagga cgctacattc cccggaagcc 1440
cttccctgac tttgtgtaca aacgcatcaa agcaaggagc aggttggtg agctgagagg 1500
ggtccctcgt ggctgtatg acggaccggt atgcgaggTg tctgtgacgc ccaagacggt 1560
gactccagcc tcatcagcta agacatcccc tgccaagcag caggcaccac ctgttcggaa 1620
cctgcaccag tctggattca gcttgtctgg tgctcagatt gacgacaaca ttccccgccg 1680
caccacccag cgcacgtgg caccctctgg tggccgtgcc aacatcacca gcctgggcta 1740
aagccctag gcctgcaggc cacttgggga tgggggatgg gacacctgag gacattctga 1800
gacttccttt cttccat 1817
```

<210> 2
<211> 572
<212> PRT
<213> Mus musculus

<400> 2

Met	Ser	Tyr	Gln	Gly	Lys	Lys	Asn	Ile	Pro	Pro	Ile	Thr	Ser	Asp	Arg
1				5					10					15	
Leu	Leu	Ile	Lys	Gly	Gly	Lys	Ile	Val	Asn	Asp	Asp	Gln	Ser	Phe	Tyr
			20					25					30		
Ala	Asp	Ile	Tyr	Met	Glu	Asp	Gly	Leu	Ile	Lys	Gln	Ile	Gly	Glu	Asn
		35					40					45			
Leu	Ile	Val	Pro	Gly	Gly	Val	Lys	Thr	Ile	Glu	Ala	His	Ser	Arg	Met
	50					55					60				
Val	Ile	Pro	Gly	Gly	Ile	Asp	Val	His	Thr	Arg	Phe	Gln	Met	Pro	Asp
65					70					75				80	
Gln	Gly	Met	Thr	Ser	Ala	Asp	Asp	Phe	Phe	Gln	Gly	Thr	Lys	Ala	Ala
				85					90					95	
Leu	Ala	Gly	Gly	Thr	Thr	Met	Ile	Ile	Asp	His	Val	Val	Pro	Glu	Pro
		100						105					110		
Gly	Thr	Ser	Leu	Leu	Ala	Ala	Phe	Asp	Gln	Trp	Arg	Glu	Trp	Ala	Asp
	115						120					125			
Ser	Lys	Ser	Cys	Cys	Asp	Tyr	Ser	Leu	His	Val	Asp	Ile	Thr	Glu	Trp
	130					135					140				
His	Lys	Gly	Ile	Gln	Glu	Glu	Met	Glu	Ala	Leu	Val	Lys	Asp	His	Gly
145					150					155				160	
Val	Asn	Ser	Phe	Leu	Val	Tyr	Met	Ala	Phe	Lys	Asp	Arg	Phe	Gln	Leu
			165						170					175	
Thr	Asp	Ser	Gln	Ile	Tyr	Glu	Val	Leu	Ser	Val	Ile	Arg	Asp	Ile	Gly
		180						185					190		
Ala	Ile	Ala	Gln	Val	His	Ala	Glu	Asn	Gly	Asp	Ile	Ile	Ala	Glu	Ala
		195					200					205			
Gln	Gln	Arg	Ile	Leu	Asp	Leu	Gly	Ile	Thr	Gly	Pro	Glu	Gly	His	Val
	210					215					220				
Leu	Ser	Arg	Pro	Glu	Glu	Val	Glu	Ala	Glu	Ala	Val	Asn	Arg	Ser	Ile
225				230						235				240	
Thr	Ile	Ala	Asn	Gln	Thr	Asn	Cys	Pro	Leu	Tyr	Val	Thr	Lys	Val	Met
			245						250					255	
Pro	Lys	Ser	Ala	Ala	Glu	Val	Ile	Ala	Gln	Ala	Arg	Lys	Lys	Gly	Thr
			260					265						270	

Val	Val	Tyr	Gly	Glu	Pro	Ile	Thr	Ala	Ser	Leu	Gly	Thr	Asp	Gly	Ser	275	280	285
His	Tyr	Trp	Ser	Lys	Asn	Trp	Ala	Lys	Ala	Ala	Ala	Phe	Val	Thr	Ser	290	295	300
Pro	Pro	Leu	Ser	Pro	Asp	Pro	Thr	Thr	Pro	Asp	Phe	Leu	Asn	Ser	Leu	305	310	315
Leu	Ser	Cys	Gly	Asp	Leu	Gln	Val	Thr	Gly	Ser	Ala	His	Cys	Thr	Phe	325	330	335
Asn	Thr	Ala	Gln	Lys	Ala	Val	Gly	Lys	Asp	Asn	Phe	Thr	Leu	Ile	Pro	340	345	350
Glu	Gly	Thr	Asn	Gly	Thr	Glu	Glu	Arg	Met	Ser	Val	Ile	Trp	Asp	Lys	355	360	365
Ala	Val	Val	Thr	Gly	Lys	Met	Asp	Glu	Asn	Gln	Phe	Val	Ala	Val	Thr	370	375	380
Ser	Thr	Asn	Ala	Ala	Lys	Val	Phe	Asn	Leu	Tyr	Pro	Arg	Lys	Gly	Arg	385	390	395
Ile	Ser	Val	Gly	Ser	Asp	Ala	Asp	Leu	Val	Ile	Trp	Asp	Pro	Asp	Ser	405	410	415
Val	Lys	Thr	Ile	Ser	Ala	Lys	Thr	His	Asn	Ser	Ala	Leu	Glu	Tyr	Asn	420	425	430
Ile	Phe	Glu	Gly	Met	Glu	Cys	Arg	Gly	Ser	Pro	Leu	Val	Val	Ile	Ser	435	440	445
Gln	Gly	Lys	Ile	Val	Leu	Glu	Asp	Gly	Thr	Leu	His	Val	Thr	Glu	Gly	450	455	460
Ser	Gly	Arg	Tyr	Ile	Pro	Arg	Lys	Pro	Phe	Pro	Asp	Phe	Val	Tyr	Lys	465	470	475
Arg	Ile	Lys	Ala	Arg	Ser	Arg	Leu	Ala	Glu	Leu	Arg	Gly	Val	Pro	Arg	485	490	495
Gly	Leu	Tyr	Asp	Gly	Pro	Val	Cys	Glu	Val	Ser	Val	Thr	Pro	Lys	Thr	500	505	510
Val	Thr	Pro	Ala	Ser	Ser	Ala	Lys	Thr	Ser	Pro	Ala	Lys	Gln	Gln	Ala	515	520	525
Pro	Pro	Val	Arg	Asn	Leu	His	Gln	Ser	Gly	Phe	Ser	Leu	Ser	Gly	Ala	530	535	540
Gln	Ile	Asp	Asp	Asn	Ile	Pro	Arg	Arg	Thr	Thr	Gln	Arg	Ile	Val	Ala	545	550	555
Pro	Pro	Gly	Gly	Arg	Ala	Asn	Ile	Thr	Ser	Leu	Gly							

<210> 3
 <211> 2297
 <212> DNA
 <213> Mus musculus

<400> 3
 gctgtctgtc ttcagcgccc tctctctgcc ctgcctctcc ctccctctcc cgccctctct 60
 gccaaagccgg gcggtgcagg cagccggagc agcggcgggc ggccgagcag cgggggagtgg 120
 gcagcggtgg gagccgagct tctgtccttt ctttcatccc tccctggcct ttgtcgccgc 180
 tctcacgagt agcgcgcggc ggagagaccc gggtagagcg ccaggcagac gttagtcca 240
 gcggccggggc ggagggctcc agaggggcca tgtctcatca ggggaagaag agcatcccgc 300
 acatcaccag tgaccggctc ctcatcagag gtggacgcat catcaatgat gaccagtcct 360
 tctacgccga tgtctacctt gaagatggac tcataaaaca aataggagag aacctgattg 420
 ttcttggtgg agtgaagacc atcgaggcga atggccgaat ggtcattccc ggtggcattg 480
 atgtcaacac ttacctgcag aagccctccc agggcatgac ctcggtgat gacttcttcc 540
 agggcac'laa agcagcgctg gcaggtygaa ccacgatgat cattgaccac gttgttctctg 600
 aacctgggtc cagcttggtg acttcccttt agaaatggca cgaagcagca gacaccaaatt 660
 cctgctgtga ctattccctc cactgggaca tcacaagctg gtatgatggt gttcgggaag 720
 agctggaggt gctggtgcag gacaaaggtg tcaactcctt ccaagtctac atggcgtata 780
 aggacctgta ccagatgtct gacagccagc tgtatgaagc cttcaccttc ctttaagggtt 840
 tgggagctgt gatcttagtc catgcagaaa atggagattt gatagctcag gaacaaaaac 900
 ggatcctgga gatgggcatc acgggtcccg agggctcatg tctgagcaga cccgaggagc 960
 tggaggccga ggctgtgttc cgggctattg ccattgcagg ccgatcaat tgccctgtgt 1020
 acatcaccaa ggcatgagc aagagtgcag cggacatcat cgcactggcc aggaagaaag 1080
 gccctcttgt cttcgggtgag cccatagccg ccagcctggg aaccgatggc acccactact 1140
 ggagcaagaa ctgggccaag gcagctgcat ttgtgacttc cctccctctg agcccagacc 1200
 ccaccactcc tgactacttg acctccttgc tggcctgtgg agacttgag gtcacaggta 1260
 gtggccactg tccctacagt attgctcaga aggtctgtgg caaggacaac ttcactctga 1320
 tccctgaggg tgtcaatggt atagaagagc ggatgaccgt tgtctgggac aaggcagtgg 1380
 ctactggcaa gatggatgag aaccagtttg tagccgtcac cagcaccaac gcagccaaga 1440
 tcttcaacct gtacccgagg aaaggctcga tgcgtgtggg ctccgatgct gacgtagtca 1500
 tctgggaccc agataagatg aagaccataa cagccaaaag ccataaatca actgtggagt 1560
 acaacatctt tgagggcagc gagtgccacg gctccccctt ggtggctatc agtcagggca 1620
 agattgtctt tgaggatgga aacatcagtg tcagcaaggc catggggccgc ttcacccctc 1680
 ggaagccatt cccagagcat ctctaccagc gtgtcaggat cagaagcaag gttttcgggt 1740
 tgcatagtgt ttccaggggc atgtacgatg ggctgtgta cgaggtgcca gctacacca 1800
 aacatgctgc tctgctcct tctgcgaat cctgccttc taaacacca cccccacca 1860
 tccggaacct ccaccagtc aacttcagct tatcagggtc ccagatagat gacaacaatc 1920
 caaggcgtac aggccaccgc attgtggcgc cccctgggtg ccgctccaac atcaccagcc 1980
 tcggttgacc tcagatgagc cagatatgca agagtgaagg attatgggaa aacgtccatt 2040
 ccttttccgt gtttttgaag cccacagttt tagttggtac tgacggaggg gagattgagc 2100
 gatgctcttt ccttctctgt ttaggaagaa gtggtactag tgtggtgtgt ttgcctggaa 2160
 gtccctcgcc cacagtgtgt gttcacaccg actccacctc agagcatggt gccgtccgtt 2220
 ttcccttctt agtgacccca ggttttagcat cgtcctatac tgttccctcc actcctccat 2280
 gaccctctga gtgatgg 2297

<210> 4
 <211> 572
 <212> PRT
 <213> Mus musculus

<400> 4
 Met Ser His Gln Gly Lys Lys Ser Ile Pro His Ile Thr Ser Asp Arg

1	5	10	15
Leu Leu Ile Arg Gly Gly Arg Ile Ile Asn Asp Asp Gln Ser Phe Tyr	20	25	30
Ala Asp Val Tyr Leu Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn	35	40	45
Leu Ile Val Pro Gly Gly Val Lys Thr Ile Glu Ala Asn Gly Arg Met	50	55	60
Val Ile Pro Gly Gly Ile Asp Val Asn Thr Tyr Leu Gln Lys Pro Ser	65	70	75
Gln Gly Met Thr Ser Ala Asp Asp Phe Phe Gln Gly Thr Lys Ala Ala	85	90	95
Leu Ala Gly Gly Thr Thr Met Ile Ile Asp His Val Val Pro Glu Pro	100	105	110
Gly Ser Ser Leu Leu Thr Ser Phe Glu Lys Trp His Glu Ala Ala Asp	115	120	125
Thr Lys Ser Cys Cys Asp Tyr Ser Leu His Val Asp Ile Thr Ser Trp	130	135	140
Tyr Asp Gly Val Arg Glu Glu Leu Glu Val Leu Val Gln Asp Lys Gly	145	150	155
Val Asn Ser Phe Gln Val Tyr Met Ala Tyr Lys Asp Leu Tyr Gln Met	165	170	175
Ser Asp Ser Gln Leu Tyr Glu Ala Phe Thr Phe Leu Lys Gly Leu Gly	180	185	190
Ala Val Ile Leu Val His Ala Glu Asn Gly Asp Leu Ile Ala Gln Glu	195	200	205
Gln Lys Arg Ile Leu Glu Met Gly Ile Thr Gly Pro Glu Gly His Ala	210	215	220
Leu Ser Arg Pro Glu Glu Leu Glu Ala Glu Ala Val Phe Arg Ala Ile	225	230	235
Ala Ile Ala Gly Arg Ile Asn Cys Pro Val Tyr Ile Thr Lys Val Met	245	250	255
Ser Lys Ser Ala Ala Asp Ile Ile Ala Leu Ala Arg Lys Lys Gly Pro	260	265	270
Leu Val Phe Gly Glu Pro Ile Ala Ala Ser Leu Gly Thr Asp Gly Thr	275	280	285
His Tyr Trp Ser Lys Asn Trp Ala Lys Ala Ala Phe Val Thr Ser	290	295	300
Pro Pro Leu Ser Pro Asp Pro Thr Thr Pro Asp Tyr Leu Thr Ser Leu			

305		310		315		320
Leu Ala Cys Gly Asp	Leu Gln Val Thr	Gly Ser Gly His Cys	Pro Tyr			
325		330	335			
Ser Ile Ala Gln Lys	Ala Val Gly Lys	Asp Asn Phe Thr	Leu Ile Pro			
340		345	350			
Glu Gly Val Asn Gly	Ile Glu Glu Arg	Met Thr Val Val	Trp Asp Lys			
355		360	365			
Ala Val Ala Thr Gly	Lys Met Asp Glu	Asn Gln Phe Val	Ala Val Thr			
370		375	380			
Ser Thr Asn Ala Ala	Lys Ile Phe Asn	Leu Tyr Pro Arg	Lys Gly Arg			
385		390	395			400
Ile Ala Val Gly Ser	Asp Ala Asp Val	Val Ile Trp Asp	Pro Asp Lys			
	405	410	415			
Met Lys Thr Ile Thr	Ala Lys Ser His	Lys Ser Thr Val	Glu Tyr Asn			
	420	425	430			
Ile Phe Glu Gly Met	Glu Cys His Gly	Ser Pro Leu Val	Val Ile Ser			
435		440	445			
Gln Gly Lys Ile Val	Phe Glu Asp Gly	Asn Ile Ser Val	Ser Lys Gly			
450		455	460			
Met Gly Arg Phe Ile	Pro Arg Lys Pro	Phe Pro Glu His	Leu Tyr Gln			
465		470	475			480
Arg Val Arg Ile Arg	Ser Lys Val Phe	Gly Leu His Ser	Val Ser Arg			
	485	490	495			
Gly Met Tyr Asp Gly	Pro Val Tyr Glu	Val Pro Ala Thr	Pro Lys His			
	500	505	510			
Ala Ala Pro Ala Pro	Ser Ala Glu Ser	Ser Pro Ser Lys	His Gln Pro			
	515	520	525			
Pro Pro Ile Arg Asn	Leu His Gln Ser	Asn Phe Ser Leu	Ser Gly Ala			
	530	535	540			
Gln Ile Asp Asp Asn	Asn Pro Arg Arg	Thr Gly His Arg	Ile Val Ala			
545		550	555			560
Pro Pro Gly Gly Arg	Ser Asn Ile Thr	Ser Leu Gly				
	565	570				

<210> 5

<211> 1920

<212> DNA

<213> Mus musculus

<400> 5

gctgactaat atgcttaaat tcagcgggtc gccacgtctg gtcggtacgt ccacgcccgc 60
gcagccccta ccgaggacac tcagcccgcc cgtgtatcag gatgtccttc caaggcaaga 120
agagcattcc ccggataacg agcgacggcc ttctcatcaa aggtgggaag attgtgaacg 180
atgaccagtc ctttcatgct gatctgtatg tggaagacgg tctgattaaa caaattggag 240
aaaatctcat cgtccctggg ggcatacaaaa ccatcgatgc tcatggcctg atggtgctgc 300
ctgggggagt tgacgttcac acccggtgc agatgcctgt gatgggcatg accccagctg 360
atgatttctg tcagggcacc aaggcggctc tagcaggcgg gaccaccatg atattggacc 420
atgtgtttcc tgacgttgt gtgagcctgc tggcagccta tgagcagtgg cgggacggag 480
cagacagcgc ggctgtgt gactactcct tacatgtgga cattcctcgc tggcacgaga 540
gcaccaaga agagctggag gccctagtca gggacaaagg tgtgaactcc ttcctggtct 600
tcatggcata caaggacagg tgccagtgtc ctgacgggtc gatatatgaa atcttcagcc 660
tcatccggga cctgggagct gtggcccagg tgcacgcaga aaatggggac atcgtggagg 720
aggaacagaa gcgcctgtgt gagcaaggca tcaactgttc tgagggccat gtgctcagcc 780
accagaaga ggtagaggcc gaggtgtgt acagagcagt caccattgcc aagcaggcca 840
actgcccact atacgtcacc aaggtgatga gcaagggtgc agctgacatg gttgcccagg 900
ccaagcgcag gggggtgtgt gtctttgggg aacctatcac tgccagcctg ggcactgatg 960
gctcacacta ctggagcaag aactgggcca aggtgcagc ctttgtcact tcacccccta 1020
tcaaccggga cctactact gcagaccacc tcacctctct gctgtccagt ggggacctcc 1080
aggtgacagg caglyccccac lycaccttca ctactgccc gaaggctgtt ggcaaagaca 1140
acttcacact gatccccgag gtagtcaacg gtatagaaga gcgcatgtct gtggtctggg 1200
agaaatgtgt ggcttcaggg aaaatggacg agaatgagtt cgttgccgtg accagcaca 1260
atgctgccaa aatcttcaat ttttacccca ggaagggcg tgtggccgtg ggctctgatg 1320
ctgacctgtt catctggaac cccagggcc cgaagtcct ctctgccaa agccataacc 1380
tgaatgtaga gtacaacatc tttgaaggag tggagtgcg aggagtgcc acggtggtca 1440
taagtcaagg cagagtgggt ctggaggacg gaaacctgct tgtcactcca ggggctggcc 1500
gcttcattcc ccggaagacg ttcccgact ttgtctataa gaggataaag gctcgcaaca 1560
ggctagcaga gatccacggt gtgcctcgag gcctgtacga cgggcctgtg catgaagtga 1620
tgttacctgc caagccagga agtggcacac aggccgtgc atcctgttca ggcaagatct 1680
cagtgccacc cgtgcgcaac ctgcaccagt cgggggttcag cctatctggc tctcaggctg 1740
acgatcacat tgccagacgt acggtcaga agatcatggc acccccggga ggacgtcca 1800
acatcacgtc tctttcctag acttgggggtc ttggcaagct ggtgctgtcc ccactggcag 1860
ggtgtgggga cgactcacgt cagttagctc ctctcttctg agattgttat tgtgaaaggc 1920

<210> 6

<211> 572

<212> PRT

<213> Mus musculus

<400> 6

Met Ser Phe Gln Gly Lys Lys Ser Ile Pro Arg Ile Thr Ser Asp Arg
1 5 10 15

Leu Leu Ile Lys Gly Gly Lys Ile Val Asn Asp Asp Gln Ser Phe His
20 25 30

Ala Asp Leu Tyr Val Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn
35 40 45

Leu Ile Val Pro Gly Gly Ile Lys Thr Ile Asp Ala His Gly Leu Met
50 55 60

Val Leu Pro Gly Gly Val Asp Val His Thr Arg Leu Gln Met Pro Val
65 70 75 80

Met Gly Met Thr Pro Ala Asp Asp Phe Cys Gln Gly Thr Lys Ala Ala
85 90 95

Leu	Ala	Gly	Gly	Thr	Thr	Met	Ile	Leu	Asp	His	Val	Phe	Pro	Asp	Ala		
			100					105					110				
Gly	Val	Ser	Leu	Leu	Ala	Ala	Tyr	Glu	Gln	Trp	Arg	Asp	Gly	Ala	Asp		
		115					120					125					
Ser	Ala	Ala	Cys	Cys	Asp	Tyr	Ser	Leu	His	Val	Asp	Ile	Pro	Arg	Trp		
	130					135					140						
His	Glu	Ser	Thr	Lys	Glu	Glu	Leu	Glu	Ala	Leu	Val	Arg	Asp	Lys	Gly		
145					150					155				160			
Val	Asn	Ser	Phe	Leu	Val	Phe	Met	Ala	Tyr	Lys	Asp	Arg	Cys	Gln	Cys		
				165					170					175			
Thr	Asp	Gly	Gln	Ile	Tyr	Glu	Ile	Phe	Ser	Leu	Ile	Arg	Asp	Leu	Gly		
			180					185					190				
Ala	Val	Ala	Gln	Val	His	Ala	Glu	Asn	Gly	Asp	Ile	Val	Glu	Glu	Glu		
		195					200					205					
Gln	Lys	Arg	Leu	Leu	Glu	Gln	Gly	Ile	Thr	Gly	Pro	Glu	Gly	His	Val		
	210					215					220						
Leu	Ser	His	Pro	Glu	Glu	Val	Glu	Ala	Glu	Ala	Val	Tyr	Arg	Ala	Val		
225				230					235						240		
Thr	Ile	Ala	Lys	Gln	Ala	Asn	Cys	Pro	Leu	Tyr	Val	Thr	Lys	Val	Met		
				245					250					255			
Ser	Lys	Gly	Ala	Ala	Asp	Met	Val	Ala	Gln	Ala	Lys	Arg	Arg	Gly	Val		
			260					265					270				
Val	Val	Phe	Gly	Glu	Pro	Ile	Thr	Ala	Ser	Leu	Gly	Thr	Asp	Gly	Ser		
		275					280					285					
His	Tyr	Trp	Ser	Lys	Asn	Trp	Ala	Lys	Ala	Ala	Ala	Phe	Val	Thr	Ser		
	290					295					300						
Pro	Pro	Ile	Asn	Pro	Asp	Pro	Thr	Thr	Ala	Asp	His	Leu	Thr	Ser	Leu		
305				310						315					320		
Leu	Ser	Ser	Gly	Asp	Leu	Gln	Val	Thr	Gly	Ser	Ala	His	Cys	Thr	Phe		
				325					330					335			
Thr	Thr	Ala	Gln	Lys	Ala	Val	Gly	Lys	Asp	Asn	Phe	Thr	Leu	Ile	Pro		
			340					345					350				
Glu	Val	Val	Asn	Gly	Ile	Glu	Glu	Arg	Met	Ser	Val	Val	Trp	Glu	Lys		
		355					360					365					
Cys	Val	Ala	Ser	Gly	Lys	Met	Asp	Glu	Asn	Glu	Phe	Val	Ala	Val	Thr		
	370					375					380						
Ser	Thr	Asn	Ala	Ala	Lys	Ile	Phe	Asn	Phe	Tyr	Pro	Arg	Lys	Gly	Arg		
385					390					395					400		

Val Ala Val Gly Ser Asp Ala Asp Leu Val Ile Trp Asn Pro Arg Ala
 405 410 415
 Thr Lys Val Ile Ser Ala Lys Ser His Asn Leu Asn Val Glu Tyr Asn
 420 425 430
 Ile Phe Glu Gly Val Glu Cys Arg Gly Val Pro Thr Val Val Ile Ser
 435 440 445
 Gln Gly Arg Val Val Leu Glu Asp Gly Asn Leu Leu Val Thr Pro Gly
 450 455 460
 Ala Gly Arg Phe Ile Pro Arg Lys Thr Phe Pro Asp Phe Val Tyr Lys
 465 470 475 480
 Arg Ile Lys Ala Arg Asn Arg Leu Ala Glu Ile His Gly Val Pro Arg
 485 490 495
 Gly Leu Tyr Asp Gly Pro Val His Glu Val Met Leu Pro Ala Lys Pro
 500 505 510
 Gly Ser Gly Thr Gln Ala Arg Ala Ser Cys Ser Gly Lys Ile Ser Val
 515 520 525
 Pro Pro Val Arg Asn Leu His Gln Ser Gly Phe Ser Leu Ser Gly Ser
 530 535 540
 Gln Ala Asp Asp His Ile Ala Arg Arg Thr Ala Gln Lys Ile Met Ala
 545 550 555 560
 Pro Pro Gly Gly Arg Ser Asn Ile Thr Ser Leu Ser
 565 570

<210> 7
 <211> 1690
 <212> DNA
 <213> Homo sapiens

<400> 7
 gccgccccta ccagagaccc ccaggagcag gatgtccttc cagggcaaga aaagcatccc 60
 ccggatcacg agtgaccgcc ttctgatcag aggtgggagg atcgtgaatg acgaccagtc 120
 cttttacgct gatgtgcacg tggaagatgg cttgataaaa caaatcggag aaaacctcat 180
 cgtccctggg ggcatcaaga ccattgacgc ccacggcctg atggtccttc ctggtggcgt 240
 tgacgtccac acaaggctgc agatgcctgt cctgggcatg acaccggctg acgacttctg 300
 tcagggcacc aaggcagcgc tagcaggagg aaccaccatg atcttgacc acgtcttccc 360
 cgacacgggt gtgagcctgc tggcggccta cgagcagtgg cgggagcggg cggacagcgc 420
 ggcctgctgc gactactccc tgcacgtgga catcaccoga tggcatgaga gcatcaagga 480
 ggagctggag gccctgggtca aggagaaggg tgtgaactcc ttcttgggtc tcatggcata 540
 caaggaccgg tgccagtgcg gcgacagcca gatgtacgag atcttcagca tcatccggga 600
 cctggggggc ttggcccagg tgcacgctga gaacggggac atcgtggagg aggagcagaa 660
 gcggttgctg gagctcggca tcaactggccc cgaggggccac gtgctcagcc accccgagga 720
 ggtggagggt gaggcggtgt accgagctgt caccatcgcc aagcaggcaa actgcccgt 780
 gtacgtcacc aaggtgatga gcaagggggc ggccgacgcc atcgtcagg ccaagcgag 840
 aggggtggtc gtgtttgggg agcccatcac cgccagcctg ggcaaccgac gttcacacta 900
 ctggagcaag aactggggca aggctgcagc cttcgtcaca tcaccccctg tcaaccagga 960

```

ccccaccacg gcagaccacc tcacctgctt gctgtccagc ggggacctcc aggtgacagg 1020
cagcgcacac tgcaccttca ccactgcccgaaggctgtg ggcaaggaca acttcgcgct 1080
gatccccgag ggcaccaacg gcattgagga gcgcatgtcg atggtctggg agaaatgtgt 1140
ggcctctggg aagatggacg agaatgagtt cgtcgcggtg accagtacaa atgctgccaa 1200
aatcttcaat ttttacccaa ggaaggggcg agtggctgtg ggctctgacg ctgacctggt 1260
catatggaac cccaaggcca ccaagatcat ctctgccaaag acccacaatc tgaacgtgga 1320
gtacaacatc ttcgagggag tggagtgccg gggagcgccct gccgtggtca taagtcaggg 1380
ccgagtggcg ctggaggacg ggaagatggt tgtcaccccg ggggcgggccc gcttcgtccc 1440
tcggaaaaca ttcccggact ttgtctacaa gaggatcaaa gctcgcaaca ggctggcgga 1500
gatccacggt gtgccccgtg ggctgtatga cgggcccgtc cacgaggtga tggtgccctgc 1560
caagccaggg agtggcgctc cggcccgcgc gtcctgccca ggcaagatct ccgtgcctcc 1620
tgtgcgcaac ctacatcagt cgggggttcag cctatctggg tctcaggctg atgaccacat 1680
cgcccgcgac 1690

```

<210> 8

<211> 572

<212> PRT

<213> Homo sapiens

<400> 8

```

Met Ser Phe Gln Gly Lys Lys Ser Ile Pro Arg Ile Thr Ser Asp Arg
  1             5             10             15

Leu Leu Ile Arg Gly Gly Arg Ile Val Asn Asp Asp Gln Ser Phe Tyr
      20             25             30

Ala Asp Val His Val Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn
      35             40             45

Leu Ile Val Pro Gly Gly Ile Lys Thr Ile Asp Ala His Gly Leu Met
      50             55             60

Val Leu Pro Gly Gly Val Asp Val His Thr Arg Leu Gln Met Pro Val
      65             70             75             80

Leu Gly Met Thr Pro Ala Asp Asp Phe Cys Gln Gly Thr Lys Ala Ala
      85             90             95

Leu Ala Gly Gly Thr Thr Met Ile Leu Asp His Val Phe Pro Asp Thr
      100            105            110

Gly Val Ser Leu Leu Ala Ala Tyr Glu Gln Trp Arg Glu Arg Ala Asp
      115            120            125

Ser Ala Ala Cys Cys Asp Tyr Ser Leu His Val Asp Ile Thr Arg Trp
      130            135            140

His Glu Ser Ile Lys Glu Glu Leu Glu Ala Leu Val Lys Glu Lys Gly
      145            150            155            160

Val Asn Ser Phe Leu Val Phe Met Ala Tyr Lys Asp Arg Cys Gln Cys
      165            170            175

Ser Asp Ser Gln Met Tyr Glu Ile Phe Ser Ile Ile Arg Asp Leu Gly
      180            185            190

```

Ala	Leu	Ala	Gln	Val	His	Ala	Glu	Asn	Gly	Asp	Ile	Val	Glu	Glu	Glu	195	200	205	
Gln	Lys	Arg	Leu	Leu	Glu	Leu	Gly	Ile	Thr	Gly	Pro	Glu	Gly	His	Val	210	215	220	
Leu	Ser	His	Pro	Glu	Glu	Val	Glu	Ala	Glu	Ala	Val	Tyr	Arg	Ala	Val	225	230	235	240
Thr	Ile	Ala	Lys	Gln	Ala	Asn	Cys	Pro	Leu	Tyr	Val	Thr	Lys	Val	Met	245	250	255	
Ser	Lys	Gly	Ala	Ala	Asp	Ala	Ile	Ala	Gln	Ala	Lys	Arg	Arg	Gly	Val	260	265	270	
Val	Val	Phe	Gly	Glu	Pro	Ile	Thr	Ala	Ser	Leu	Gly	Thr	Asp	Gly	Ser	275	280	285	
His	Tyr	Trp	Ser	Lys	Asn	Trp	Ala	Lys	Ala	Ala	Ala	Phe	Val	Thr	Ser	290	295	300	
Pro	Pro	Val	Asn	Pro	Asp	Pro	Thr	Thr	Ala	Asp	His	Leu	Thr	Cys	Leu	305	310	315	320
Leu	Ser	Ser	Gly	Asp	Leu	Gln	Val	Thr	Gly	Ser	Ala	His	Cys	Thr	Phe	325	330	335	
Thr	Thr	Ala	Gln	Lys	Ala	Val	Gly	Lys	Asp	Asn	Phe	Ala	Leu	Ile	Pro	340	345	350	
Glu	Gly	Thr	Asn	Gly	Ile	Glu	Glu	Arg	Met	Ser	Met	Val	Trp	Glu	Lys	355	360	365	
Cys	Val	Ala	Ser	Gly	Lys	Met	Asp	Glu	Asn	Glu	Phe	Val	Ala	Val	Thr	370	375	380	
Ser	Thr	Asn	Ala	Ala	Lys	Ile	Phe	Asn	Phe	Tyr	Pro	Arg	Lys	Gly	Arg	385	390	395	400
Val	Ala	Val	Gly	Ser	Asp	Ala	Asp	Leu	Val	Ile	Trp	Asn	Pro	Lys	Ala	405	410	415	
Thr	Lys	Ile	Ile	Ser	Ala	Lys	Thr	His	Asn	Leu	Asn	Val	Glu	Tyr	Asn	420	425	430	
Ile	Phe	Glu	Gly	Val	Glu	Cys	Arg	Gly	Ala	Pro	Ala	Val	Val	Ile	Ser	435	440	445	
Gln	Gly	Arg	Val	Ala	Leu	Glu	Asp	Gly	Lys	Met	Phe	Val	Thr	Pro	Gly	450	455	460	
Ala	Gly	Arg	Phe	Val	Pro	Arg	Lys	Thr	Phe	Pro	Asp	Phe	Val	Tyr	Lys	465	470	475	480
Arg	Ile	Lys	Ala	Arg	Asn	Arg	Leu	Ala	Glu	Ile	His	Gly	Val	Pro	Arg	485	490	495	

Gly Leu Tyr Asp Gly Pro Val His Glu Val Met Val Pro Ala Lys Pro
500 505 510

Gly Ser Gly Ala Pro Ala Arg Ala Ser Cys Pro Gly Lys Ile Ser Val
515 520 525

Pro Pro Val Arg Asn Leu His Gln Ser Gly Phe Ser Leu Ser Gly Ser
530 535 540

Gln Ala Asp Asp His Ile Ala Arg Arg Thr Ala Gln Lys Ile Met Ala
545 550 555 560

Pro Pro Gly Gly Arg Ser Asn Ile Thr Ser Leu Ser
565 570

<210> 9

<211> 55

<212> PRT

<213> Homo sapiens

<221> MISC_FEATURE

<222> (1)..(55)

<223> amino acids 1 to 55 of the sequence shown in Figure 12

<400> 9

Met Ser Phe Gln Gly Lys Lys Ser Ile Pro Arg Ile Thr Ser Asp Arg
1 5 10 15

Leu Leu Ile Arg Gly Gly Arg Ile Val Asn Asp Asp Gln Ser Phe Tyr
20 25 30

Ala Asp Val His Val Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn
35 40 45

Leu Ile Val Pro Gly Gly Ile
50 55

<210> 10

<211> 497

<212> PRT

<213> Homo sapiens

<221> MISC_FEATURE

<222> (1)..(516)

<223> amino acids 57 to 553 of the sequence shown in Figure 12

<400> 10

Thr Ile Asp Ala His Gly Leu Met Val Leu Pro Gly Gly Val Asp Val
1 5 10 15

His Thr Arg Leu Gln Met Pro Val Leu Gly Met Thr Pro Ala Asp Asp
20 25 30

Phe Cys Gln Gly Thr Lys Ala Ala Leu Ala Gly Gly Thr Thr Met Ile
35 40 45

Leu	Asp	His	Val	Phe	Pro	Asp	Thr	Gly	Val	Ser	Leu	Leu	Ala	Ala	Tyr	50	55	60	
Glu	Gln	Trp	Arg	Glu	Arg	Ala	Asp	Ser	Ala	Ala	Cys	Cys	Asp	Tyr	Ser	65	70	75	80
Leu	His	Val	Asp	Ile	Thr	Arg	Trp	His	Glu	Ser	Ile	Lys	Glu	Glu	Leu	85	90	95	
Glu	Ala	Leu	Val	Lys	Glu	Lys	Gly	Val	Asn	Ser	Phe	Leu	Val	Phe	Met	100	105	110	
Ala	Tyr	Lys	Asp	Arg	Cys	Gln	Cys	Ser	Asp	Ser	Gln	Met	Tyr	Glu	Ile	115	120	125	
Phe	Ser	Ile	Ile	Arg	Asp	Leu	Gly	Ala	Leu	Ala	Gln	Val	His	Ala	Glu	130	135	140	
Asn	Gly	Asp	Ile	Val	Glu	Glu	Gln	Lys	Arg	Leu	Leu	Glu	Leu	Gly		145	150	155	160
Ile	Thr	Gly	Pro	Glu	Gly	His	Val	Leu	Ser	His	Pro	Glu	Glu	Val	Glu	165	170	175	
Ala	Glu	Ala	Val	Tyr	Arg	Ala	Val	Thr	Ile	Ala	Lys	Gln	Ala	Asn	Cys	180	185	190	
Pro	Leu	Tyr	Val	Thr	Lys	Val	Met	Ser	Lys	Gly	Ala	Ala	Asp	Ala	Ile	195	200	205	
Ala	Gln	Ala	Lys	Arg	Arg	Gly	Val	Val	Val	Phe	Gly	Glu	Pro	Ile	Thr	210	215	220	
Ala	Ser	Leu	Gly	Thr	Asp	Gly	Ser	His	Tyr	Trp	Ser	Lys	Asn	Trp	Ala	225	230	235	240
Lys	Ala	Ala	Ala	Phe	Val	Thr	Ser	Pro	Pro	Val	Asn	Pro	Asp	Pro	Thr	245	250	255	
Thr	Ala	Asp	His	Leu	Thr	Cys	Leu	Leu	Ser	Ser	Gly	Asp	Leu	Gln	Val	260	265	270	
Thr	Gly	Ser	Ala	His	Cys	Thr	Phe	Thr	Thr	Ala	Gln	Lys	Ala	Val	Gly	275	280	285	
Lys	Asp	Asn	Phe	Ala	Leu	Ile	Pro	Glu	Gly	Thr	Asn	Gly	Ile	Glu	Glu	290	295	300	
Arg	Met	Ser	Met	Val	Trp	Glu	Lys	Cys	Val	Ala	Ser	Gly	Lys	Met	Asp	305	310	315	320
Glu	Asn	Glu	Phe	Val	Ala	Val	Thr	Ser	Thr	Asn	Ala	Ala	Lys	Ile	Phe	325	330	335	
Asn	Phe	Tyr	Pro	Arg	Lys	Gly	Arg	Val	Ala	Val	Gly	Ser	Asp	Ala	Asp	340	345	350	

Leu Val Ile Trp Asn Pro Lys Ala Thr Lys Ile Ile Ser Ala Lys Thr
355 360 365

His Asn Leu Asn Val Glu Tyr Asn Ile Phe Glu Gly Val Glu Cys Arg
370 375 380

Gly Ala Pro Ala Val Val Ile Ser Gln Gly Arg Val Ala Leu Glu Asp
385 390 395 400

Gly Lys Met Phe Val Thr Pro Gly Ala Gly Arg Phe Val Pro Arg Lys
405 410 415

Thr Phe Pro Asp Phe Val Tyr Lys Arg Ile Lys Ala Arg Asn Arg Leu
420 425 430

Ala Glu Ile His Gly Val Pro Arg Gly Leu Tyr Asp Gly Pro Val His
435 440 445

Glu Val Met Val Pro Ala Lys Pro Gly Ser Gly Ala Pro Ala Arg Ala
450 455 460

Ser Cys Pro Gly Lys Ile Ser Val Pro Pro Val Arg Asn Leu His Gln
465 470 475 480

Ser Gly Phe Ser Leu Ser Gly Ser Gln Ala Asp Asp His Ile Ala Arg
485 490 495

Arg
497